REMARKS

Reconsideration is respectfully requested in view of the foregoing amendments and the remarks which follow.

The specification has been amended at page 9, lines 12-14 as well as lines 19-23, as Applicants inadvertently in both instances wrote "1,06,700 mg/L" when what was meant was --106,700 mg/L--. This amount 106,700 mg/L is supported at page 19, Table 1.

In addition, in the specification at page 9, line 13, Applicants have written "a concentration ranging between 200 mg/L to 1,00,000 mg/L" when what was meant was --a concentration ranging between 200 mg/L to 100,000 mg/L--.

Claim 2 has been amended to recite that all of the steps are conducted at room temperature. This is supported in the as-filed specification.

The presently pending claims are 2-22.

Claims 2-22 stand rejected under §112, second paragraph, for indefiniteness. This rejection is respectfully traversed.

It is respectfully submitted that in order to properly claim the present invention, the reference to Fig. 1 in the claims is a necessity since there is no practical or effective way to define the invention in words. The inclusion of Fig. 1 in the claims is not for Applicants' convenience, but rather is the best available means for accurately claiming the invention.

The Examiner raises the issue of lack of clarity as to what physical parameters are intended by the "C" values. The Examiner goes on to state that the specification describes these as various colors where "C-1000", (should be"C-10,000") is characterized as "brown", but is silent as to any characteristics of the "C" values less than "C-10,000", except that they represent "a particular color range".

In Applicants' method, "C" denotes the color at a particular concentration of "C.O.D.". For example, "C-1000" = is the color of the reaction mixture having a COD of 1,000 mg/L, and "C-2000" = is the color of the reaction mixture having a COD of 2,000 mg/L.

In order to describe the absorbence value of a reaction mixture (liquid) as suggested by the Examiner, an analytical instrument would be required, such as a colorimeter, photometer, or spectrophotometer. By contrast, Applicants, by the claimed invention, provide a method whereby by simply mixing the ingredients in a test tube, it serves to generate the designated color. The colored solution obtained at a particular concentration of glucose is stable and specific and can be used repeatedly as a reference, simply by visual observation without any instrument, for a period of at least one (1) year. Since a glucose solution of 1000 mg/L = 1067 mg/L C.O.D., the glucose concentration employed can simply be multiplied by a factor of 1.067 to arrive at the C.O.D. concentration of the sample/standard. Applicants' claimed method provides a rapid method for estimating the C.O.D. of a sample. Measuring absorbence is an altogether impractical method since the absorbence of the standard shown in the color chart of Fig. 1 cannot be read spectrophotometrically, due to its very dark color and turbidity at C.O.D. values which are in excess of 10,000 mg/L. In such circumstances, the use of O.D. absorbence values cannot be employed and, accordingly, becomes irrelevant.

It is respectfully submitted that claiming the color chart herein is necessary in order to claim the invention. Further, Applicants have provided clarification of what is intended by the "C" values, thus one of ordinary skill in the art would readily know how to make and use the instant invention. Accordingly, the rejection under §112, second paragraph, is deemed to have been overcome, and its withdrawal is respectfully solicited.

The amendment to the specification with respect to the "Brief Description of the Drawings" serves to overcome the objection thereto.

The Examiner has rejected claims 2-22 under §103(a) over the combination of Takahashi et al., or DE 100291 46 A1 in view of Atalla et al. This rejection is respectfully traversed.

It is known in the art that the determination of C.O.D. is calculated using potassium dichromate, sulfuric acid-silver sulfate and mercuric sulfate. It should be emphasized that these ingredients are always used under the **following stringent conditions**:

i. The mixture containing the sample/standard **must be refluxed**, i.e., **boiled at 148°C for 2 hr**. The excessive potassium dichromate is titrated with ammonium ferrous sulfate solution to determine the potassium dichromate consumption, from which its oxygen demand is calculated. [ASTM, D1252-60 Chemical Oxygen Demand (Dichromate Oxygen Demand) of Industrial waste water)] [Takahashi et. al., US Patent 3,989,600].

ii. Wet oxidation: Key variables in the wet oxidation reactions are: concentration of dissolved oxygen, reaction temperature, reaction time, polyoxometalate concentration and pH.

The rate and extent of the wet oxidation reaction will likely depend, most significantly, on three variables: oxygen pressure, temperature and time. As a result, only rather general limits may be assigned to any one of these parameters. Nonetheless, it is expected that absolute oxygen pressures of from 15 to 1000 pounds per square inch (psia), reaction temperatures of from 100°C to 400°C and reaction times of from 0.5 to 10 hours will encompass the most likely configurations of these variables. [Atalla et. al., 1996 US Patent 5,549,789]

iii. The C.O.D. of the sample / standard should be in the range up to 900 mg / L. For samples of COD >900 mg/L, the sample must be diluted. [APHA, AWWA, Water Pollution Control Federation (WPCF), Washington, DC.1998]

Hence, although the ingredients used in the C.O.D. determination are similar, it is not at all obvious that if these ingredients are put together they will react by themselves, even without being refluxed at 148°C for 2 hr.

a) The claimed method does not involve refluxing and does not require 2 hrs., as taught by the references applied by the Examiner.

b) The claimed method does not require the use of ammonium ferrous sulfate to determine the potassium dichromate consumption, for calculating oxygen demand.

In the claimed method of the present invention, the C.O.D. of the sample/standard can be used beyond the range set by the standard procedure referred to by Takahashi et. al., US Patent 3,989,600 or Atalla et. al., US Patent 5,549,789 or APHA, AWWA, Water Pollution Control Federation (WPCF), Washington, DC. 1998. The claimed method is capable of predicting COD values beyond those claimed in the prior art.

The method claimed herein is entirely unobvious in view of Takahashi et. al., US Patent 3,989,600 or Atalla et. al., US Patent 5,549,789 or APHA, AWWA, Water Pollution Control Federation (WPCF), Washington, DC.1998, as is its utility with samples having a COD beyond >900 mg /L.

Experimentally many compounds can be quantitatively oxidized to CO_2 and H_2O and hence can be used as reference / model compounds, e.g. D-glucose and 1,3-dimethoxybenzyl alcohol (veratryl alcohol) and C.O.D. values may reasonably be taken to represent the total concentration of reducing equivalents of organic carbon content. It, therefore, follows from the foregoing that reductions in C.O.D. values, brought about by

polyoxometalate catalyzed wet oxidation of these model compounds, are a valid measure of the extent to which the model compounds have been oxidized. [Atalla et. al., US Patent 5,549,789].

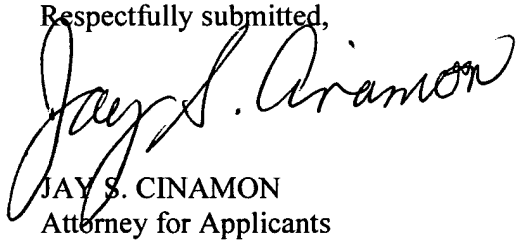
Glucose as a model compound for C.O.D. estimations, has only been used over a very narrow range of 50-150 mg/L and only works when employed under a set of very stringent conditions, namely refluxing for 2 hrs at 148°C. It is respectfully submitted that it would be entirely unobvious to one of ordinary skill that glucose as a compound will work at all other concentrations, i.e., greater than 150 mg/L, and it is equally unobvious that glucose will work under all conditions, including *without* the need of *refluxing*.

It is respectfully submitted that the claims distinguish over the combination of references employed by the Examiner and, accordingly, the rejection has been overcome and should be withdrawn since the Examiner has not established a *prima facie* case of obviousness.

It is respectfully submitted that since the rejections of record have been overcome, the issuance of a Notice of Allowance is now timely and is respectfully requested.

Please charge any fees which may be due to our Deposit Account No. 01-0035.

Respectfully submitted,



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